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TI Fuel cells with improved cooling plates

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PI	JP 63098964	A2	19880430	JP 1986-243008	19861015
AB	<p>Cooling plates for fuel-cell stacks have an ***expanded***  ***graphite*** layer which contains embedded cooling tubes, nonpermeable  ***graphite*** sheets attached to the edges of the ***graphite***  layer in parallel with the tubes, and glassy C sheets covering on the  opposite faces of the ***graphite*** layer. The nonpermeable graph  sheets are impregnated with resol, fluoropolymer (PTFE,  C2F4-perfluorovinyl ether copolymer, C2F4-C3F6 copolymer, or C2H4-C2F4  copolymer), or fluororesin paint. Thus, oxidized ***graphite***  flakes were quickly heated to 950-1000.degree. to form ***expanded***  ***graphite***, pressed to form 12-mm-thick sheets, 2 sheets with  cooling pipe in between were hot pressed to form a 3.8-mm-thick layer w  embedded cooling tubes. This layer was attached to a top and bottom  0.6-mm-thick glassy C sheet and 1 nonpermeable graphite sheet of the sa  thickness on each side in parallel with the cooling tubes and between t  top and bottom glassy C sheets by a resol binder to obtain a cooling  plate, whose resp. thickness and wt. were 1 half and 30% of those of a  control plate.</p>				